

## I CLAIM

1. A pull-out computer housing for enabling easy installation and ergonomic positioning of a computer system units and controls, comprising:  
a central processing unit (CPU) enclosure for housing all standard units of the computer system;

a flat drive bay with a flat top for housing all accessible units of said computer system and for supporting a computer keyboard; and

a hinge assembly provided between said CPU enclosure and said flat drive bay for enabling adjustment of the flat top to a preferred angle and a preferred elevation.

2. The computer housing of claim 1, wherein said CPU enclosure comprises:

a CPU body formed of a left and a right wall, a back and a front enclosure wall, an enclosure base and an enclosure cover;

a first opening in said front wall for providing a passage for the cables connecting said standard units with said accessible units;

a right and a left hemmed ledge formed on a respectively top side of said left and right walls; and

a first and a second top hemmed ledge formed on a respective right and left side of said enclosure cover,

wherein said right hemmed ledge and said first hemmed ledge form a right tongue and said left hemmed ledge and said second hemmed ledge form a left tongue, for enabling displacement of said CPU enclosure on a guide rail system.

3. The computer housing of claim 2, wherein said CPU body further comprises a plurality of cutouts on each of said left and right walls, a pair of cutouts for engaging a pair of hooks provided on said hinge assembly, for

adjusting the elevation of said flat drive bay for ergonomic positioning of said keyboard.

4. The computer housing of claim 1, wherein said CPU enclosure comprises a CPU body and a pair of hangers pivotally attached to said CPU body for enabling translation of said housing between a hanging condition and an operating condition.

5. The computer housing of claim 1, wherein said flat drive bay comprises:

a bay frame for forming a central bay and two side bays, each bay for holding one of said accessible units;

a bottom support mounted on said frame for holding said accessible units; and

a top cover for mounting on said frame to provide said flat top.

6. The computer housing of claim 5, wherein said bottom support is a mounting bracket for each said bays provided on said bay frame and wherein said mounting brackets are provided at a distance from said top cover selected to accommodate accessible units of various heights.

7. The computer housing of claim 5, wherein said bay frame also comprises a cable access opening at each bay for enabling connection of a cable to a respective one of said accessible units.

8. The computer housing of claim 5, wherein said flat drive bay further comprises an outside drive bay rail provided on one side of said frame for enabling addition of an outside drive bay for expanding said computer system.

9. The computer housing of claim 8, wherein said outside drive bay comprises:

an outside bay base for holding a respective accessible unit and accommodating a cable for connecting said accessible unit to said standard units;

an outside drive bay cover for mounting on said outside base to provide a flat surface for accommodating a computer mouse; and  
and access cover for enabling access to said cable.

10. The computer housing of claim 5, wherein said hinge assembly comprises:

a base for mounting on a front enclosure wall of said CPU enclosure, said base having a second opening; and

a hollow hinge fixed on said base for rotatably attaching said base to said bay frame,

wherein said first opening covers said second opening for enabling routing of said cables from said standard units to said respective accessible units through said first and second opening and through said hollow hinge.

11. The computer housing of claim 1, wherein said hinge assembly comprises:

a hollow hinge mounted on a front enclosure wall of said CPU enclosure and on the frame of said flat drive bay for enabling rotation of said flat drive bay between a pull-up position and a maintenance position; and

a pivot assembly for securing said flat drive bay to assume said preferred angle.

12. The computer housing of claim 10, wherein said hinge assembly further comprises an elevation mechanism for enabling setting said preferred elevation of said flat bay drive with respect to said CPU enclosure.

13. The computer housing of claim 12, wherein said elevation mechanism comprises a pair of hooks fixed to the left and right sides of said base, each said hook having a plurality of teeth for engaging a corresponding pair of cutouts provided in a respective right and left wall of said CPU enclosure.

14. The computer housing of claim 1, wherein said hinge assembly comprises a mid-board interconnecting assembly for accommodating one or more switches, input and output ports, and removable media drive ports.

15. The computer housing of claim 15, further comprising an EMC gasket 67 sandwiched between said mid-board interconnect assembly said front wall of the CPU enclosure.

16. The computer housing of claim 14, wherein said mid-board interconnecting assembly is manufactured with plated edges and solid ground planes for preventing noise from leaving the inside of said CPU enclosure.

17. The computer housing of claim 14, wherein said mid-board interconnecting assembly further accommodates connectors for one or more cables routed between said CPU enclosure and said flat drive bay, for enabling separation and re-attachment of said CPU enclosure and said flat drive bay without opening said CPU enclosure.

18. The computer housing of claim 1, wherein said standard units comprises a motherboard, a power supply and one or more hard drives.

19. The computer housing of claim 1, wherein said accessible units comprises a plurality of device drivers such as a floppy drive, a slim-line CDROM, a Zip drive.

20. A kit for facilitating easy installation and ergonomic positioning of a computer system on a desk, while enabling space saving and alternative uses of a computer desk, comprising:

- a guide rail system for mounting on the back of the desk top;

- a pull-out computer housing where conventional computer components are repartitioned into standard devices mounted in a CPU enclosure and user-accessible devices mounted in a flat drive bay; and

- a hinge assembly provided between said CPU enclosure and said flat drive bay for enabling adjustment of the flat drive bay to a preferred angle and a preferred elevation.

21. The kit of claim 20, wherein said guide rail system comprises:

- a left and a right rail for receiving a corresponding left and right tongue machined on the top lateral sides of said CPU enclosure;

- a rear guide support bracket for supporting the rear end of said left and right rails while enabling adjustment of the height of said guide rail system with respect to the desktop and adjustment of said guide rail system to the depth of said CPU enclosure;

- a pair of leg kit pieces for sustaining said rear guide support bracket; and

- a front guide support bracket for attachment under the desk top,

- wherein said left and right rails are attached to said rear and front guide support brackets.

22. The kit of claim 21, further comprising a cable clip assembly for dressing the cables exiting at the back of said CPU enclosure.

23. The kit of claim 22, wherein said cable clip assembly comprises:

- a cable clip bean arranged transversally between said left and right rails for sliding to any location along said rails; and

- a cable clip for holding and routing the cables exiting said CPU unit.

24. The kit of claim 21, wherein said CPU enclosure comprises a CPU body and a pair of pivoting hangers for enabling translation of said housing between a stow-away position when said CPU enclosure hangs from said rails and a maintenance position, when said flat drive bay assumes a 90° angle with said CPU enclosure,